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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,091

09/25/2003

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EXAMINER

ZHAO, DAQUAN

ART UNIT

PAPER NUMBER

2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/671,091		KIM ET AL.	
	Examiner		Art Unit	
	Daquan Zhao		2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/29/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 6, 11-13, 16, 21, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1) and further in view of Kanazawa et al (US 6,580,870 B1).

Regarding claim 1, Shibata et al teach a method for processing image data comprising: receiving a plurality of image sources (e.g. figure 12, paragraph [0106], the current image data and the previous image data correspond to plurality of image sources); converting a bit depth of at least a first image source to another bit depth so that the first image source has same bit depth as a second image source (e.g. figure 12, paragraph [0106], the previous image, which is 6 bit, is converted to a 8 bit image data, which has the same number of bit with the current image data. "Number of bit" corresponds to "bit depth"). Shibata et al fail to teach an interactive media player, the interactive recording medium and the external server. Kanazawa et al teach the interactive media player, the interactive recording medium and the external server are well known in the art (e.g. figure 3 shows the DVD data structure including URL, figure 1 is the system for playing the DVD which is connected to the server, column 4, lines 45-61). It would have been obvious for one ordinary skill in the art at the time the invention

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was made to have utilized the teaching of Shibata et al in an interactive media player to process the image data from an interactive recording medium and external server taught by Kanazawa et al for reduction of the memory capacity required by the system.

Claim 11 is rejected for the same reasons as discussed in claim 1 above, wherein the reference bit depth corresponds to 8 bit, which also corresponds to "another bit depth" as taught by Shibata et al.

Claim 21 is rejected for the same reasons as discussed in claim 1 above, wherein Kanazawa et al teach the storage unit and a decoder (e.g. figure 17 and column 14, lines 40-54).

Claims 23 and 24 is rejected for the same reasons as discussed in claim 1 above.

Regarding claims 2 and 12, Shibata et al teach increasing the bit depth to match a first value (the number of bit for the previous image increase from 6 to 8 bit to match the number of bit of the current image).

Regarding claims 3 and 13, Shibata et al teach the first value is approximately equal to a highest bit depth value chosen from among respective bit depths associated with each of the plurality of image sources (8 bit corresponds to the "first value" since it is highest comparing to 6 bit).

Regarding claims 6 and 16, Shibata et al teach the bit depth is increase within a range of approximately 2^m to 2^n , where $n > m \geq 0$ (from 6 bit to 8 bit, there are 2 bits increases wherein 2 falls in the rage of 1 to 8 when $m=0$ and $n=3$).

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2. Claims 4, 14 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1) and Kanazawa et al (US 6,580,870) as applied to claims 1-3, 6, 11-13, 16, 21, 23, 24 above and further in view of Ulichney et al (EP 0,921,461 A2).

See the teaching of Shibata et al above.

Regarding claims 4, 14 and 25, Shibata et al fail to teach repeating a unit pixel value a predetermined number of times to increase the bit depth. Ulichney et al teach repeating a unit pixel value a predetermined number of times to increase the bit depth (e.g. figure 12, paragraph [0039]). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Ulichney et al into the teaching of Shibata et al to reduce the data processing time since Ulichney et al suggests replicating the original bits to eliminate the need of multiplication or rounding (Ulichney et al, paragraph [0039]).

3. Claims 5, 15, 26, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1) and Kanazawa et al (US 6,580,870 B1) as applied to claims 1-3, 6, 11-13, 16, 21, 23, 24 and further in view of Priem et al (US 5,539,430).

See the teaching of Shibata et al above.

Regarding claims 5, 15 and 26, Shibata et al fail to teach repeating a color value a predetermined number of times. Priem et al teach repeating a color value a predetermined number of times (column5, lines 28-33). It would have been obvious for

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one ordinary skill in the art at the time the invention was made to have increased the bit depth in the system of Shibata et al using the teaching of Priem et al to reduce the data processing time.

Regarding claims 27 and 28, Shibata et al teach the bit depth is increase within a range of approximately 2^m to 2^n , where $n > m \geq 0$ (from 6 bit to 8 bit, there are 2 bits increases wherein 2 falls in the rage of 1 to 8 when $m=0$ and $n=3$).

4. Claims 7, 10, 17, 20, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1) and Kanazawa et al (US 6,580,870) as applied to claims 1-3, 6, 11-13, 16, 21, 23, 24 and further in view of Chebil (US 6,993,199 B2).

See the teaching of Shibata et al above.

Regarding claims 10 and 20, Shibata et al fail to teach reducing the bit depth of the first image source to a target bit-conversion value, if the bit depth of the first image source is greater than a target value. Chebil teaches reducing the bit depth of the first image source to a target bit-conversion value, if the bit depth of the first image source is greater than a target value (e.g. figure 3a and column 4, line 33- column 5, line 8, the lease significant bits N_b are omitted to accommodate the target file size when the size of the bit plane is greater than the target value, wherein the target file size corresponds to the target value). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Chebil into the teaching of Shibata et al for high-speed data transmission and storage efficiency.

Regarding claims 7, 17, 29 and 30, Shibata et al teach increasing the bit depth (see the teaching of Shibata et al above). Shibata et al fail to teach discarding at least one low-order bit of image data of the first image source. Chebil teaches discarding at least one low-order bit of image data of the first image source to decrease the bit depth (e.g. figure 3a and column 4, line 33- column 5, line 8, the least significant bits N_b are omitted to accommodate the target file size when the size of the bit plane is greater than the target value, wherein the target file size corresponds to the target value). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Chebil into the teaching of Shibata et al for high-speed data transmission and storage efficiency.

5. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1), Kanazawa et al (US 6,580,870 B1) and Chebil (US 6,993,199 B2) as applied to claims 1-3, 6, 11-13, 16, 7, 10, 17, 20, 21, 23, 24 above further in view of Ulichney et al (EP 0,921,461 A2).

See the teaching of Shibata et al and Chebil above.

Regarding claims 8 and 18, Shibata et al and Chebil fail to teach repeat the unit pixel value. Ulichney et al teach repeating a unit pixel value a predetermined number of times to increase the bit depth (e.g. figure 12, paragraph [0039]). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Ulichney et al into the teaching of Shibata et al and Chebil to repeat the unit pixel value before the low-order bit is discarded to reduce the data processing time

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since Ulichney et al suggests replicating the original bits to eliminate the need of multiplication or rounding (Ulichney et al, paragraph [0039]).

6. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1), Kanazawa et al (US 6,580,870 B1) and Chebil (US 6,993,199 B2) as applied to claims 1-3, 6, 11-13, 16, 7, 10, 17, 20, 21, 23, 24 above further in view of Priem et al (US 5,539,430).

See the teaching of Shibata et al above.

Regarding claims 9 and 19, Shibata et al and Chebil fail to teach repeating a color value a predetermined number of times. Priem et al teach repeating a color value a predetermined number of times (column 5, lines 28-33). It would have been obvious for one ordinary skill in the art at the time the invention was made to have increased the bit depth before discarding the low-order bit in the system of Shibata et al and Chebil using the teaching of Priem et al to reduce the data processing time.

7. Claim 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US 2002/0,030,652 A1) and Kanazawa et al (US 6,580,870 B1) as applied to claims 1-3, 6, 11-13, 16, 7, 10, 17, 20, 21, 23, 24.

Regarding claim 22, Shibata et al and Kanazawa et al fail to disclose a signal mixer. The examiner takes official notice for the signal mixer since it is well known in the art. It would have been obvious for one ordinary skill in the art at the time the invention was made to have utilized a signal mixer in the system of Shibata et al and Kanazawa et al to reduce the number data transmission paths.

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Conclusion

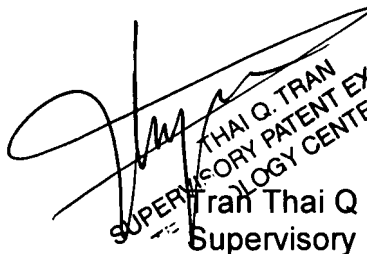
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sato (US 2002/0,039,189 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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